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ABSTRACT

A followup study was conducted involving 22 teachers of learning disabled and behavior problem students to determine why databased instructional techniques, proven to be effective, did not lead to a change in teacher behavior that was maintained at the conclusion of the original study. Ss were interviewed about their perceptions of the strengths and weaknesses of the study and to determine whether the research had any effects on individual teaching styles. Results indicated that the teachers failed to continue implementing the research procedures despite a generally positive view of the research. It is suggested that although a given treatment is demonstrated to be effective, it cannot be assumed that this fact, in and of itself, will assure maintenance. It is noted that field based researchers may need to do more to "sell" their product when it is shown to be effective. (CL)

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Research Report No. 41

FORMATIVE EVALUATION AND TEACHER DECISION MAKING:
A FOLLOW-UP INVESTIGATION

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Abstract

Eighteen elementary teachers were interviewed regarding their reactions to an Institute research study in which they had previously participated. The research study had involved the use of formative evaluation and data utilization procedures in reading instruction. The teachers gave reactions to their research participation, the support they received, their implementation of new techniques after the conclusion of the study, strengths and weaknesses of the study, as well as recommendations for future investigations. The findings are discussed in light of some cautionary remarks.

Formative Evaluation and Teacher Decision Making:

A Follow-Up Investigation

A crucial issue addressed by the Institute for Research on Learning Disabilities at the University of Minnesota is the relationship between research and the practice of education. For example, the studies investigating the impact of different measurement systems on the education of learning disabled children (cf. Mirkin, Deno, Tindal, & Kuehnle, 1980) have two implicit goals. The first was to determine which measurement systems work best under different conditions. The second was to promote the use of systematic measurement techniques in the education of learning disabled children. In essence, the second goal is for the research of the Institute to have an impact on practice.

There are two basic ways to assess the impact of the research on practice. One is to conduct a long-term follow-up study of several schools that participated in the measurement study to determine the rate of adoption of the measurement techniques. A second approach is more immediate. It involves conducting short-term follow-up studies to determine whether teachers who participated in the Institute's research continued to use the measurement system after the conclusion of the study. The latter approach was adopted in this investigation.

Much has been written in recent years about accountability. Accountability for educational practices, psychological services, special education, and educational research are all considered as important by the public. Determining the impact of applied educational research on the educators who serve as subjects represents one form of accountability.

In fact, this form of inquiry is one of the ways educational researchers can conduct "self-referent research" as described by Michael Scriven (1980). He argues that major educational research programs must have simultaneous (although smaller) efforts to improve the process of doing this research, and he implies that without such endeavors educational researchers will continue to lose credibility with the public. The present research was conducted as a modest project designed to begin to determine and demonstrate the viability of a major educational research program. This goal was approached by discovering perceptions of teachers who were the subjects, as well as the eventual consumers, of this research.

The specific stimulus for this evaluation was a question about the impact of an applied investigation that had been conducted in the spring of 1979 (Mirkin et al., 1980). That study examined the effect of formative evaluation and systematic charting techniques on teacher decision making and the spelling of learning disabled children. The experimental charting techniques and the use of these data as a basis for instructional decisions was demonstrated to be an effective teaching strategy. Yet, the project staff suspected that the teachers did not continue to implement the charting and decision-making procedures after the termination of the research. Two questions formed the basis for this present evaluation: (a) Why did the teachers not continue to use these techniques? and (b) What can be done in future research to increase the probability that teachers continue to use effective procedures after the conclusion of the study?

Since this form of self-referent research is conducted rarely, there is little research in the literature that is directly relevant to the

proposed evaluation. However, even though the methodological issues have not been conceptualized directly, there is a great deal of evaluation technology and research experience that is applicable. Two examples merit specific mention here. First, the techniques for formulating a meaningful question, developing a methodology for answering the question, and developing the specific tools for gathering the necessary information can be derived from the literature that exists regarding program evaluation (cf. Attkisson, Hargreaves, Horowitz, & Sorensen, 1978; Cook & Gruder, 1978; Struening & Guttentag, 1975; Stufflebeam, 1975). Second, Thomas Lovitt has reported some relevant data based on his research into the use of formative evaluation in the process of teaching learning disabled children (Lovitt, 1977). He concluded that despite the demonstrable efficacy of these procedures, teachers generally are resistant to the notion of using formative evaluation procedures, particularly when it involves gathering data on a daily basis. This problem is similar to the questions that stimulated this research; Lovitt's data suggest the need for this type of self-referent research. Consequently, in addition to the two specific questions about the impact of research on teaching behavior, the present evaluation was intended to begin to answer a third more general question: How should this type of research be conducted in the future?

Methodology

Subjects

The subjects were SLBP teachers from elementary schools in Minneapolis and St. Paul; all had participated in an Institute research study

during the spring of 1979. The study had investigated the impact of different measurement systems on instructional decision making with learning disabled children. Eighteen (15 female, 3 male) of the 22 teachers from the original investigation participated in this follow-up. Three of the remaining four teachers had moved and were not available; one had become a research assistant on the staff of the Institute for Research on Learning Disabilities and was therefore not an appropriate subject.

Instrument

A 16-item questionnaire (see Appendix A) was designed in an attempt to answer the question of why the data-based instructional techniques, proven to be effective, did not lead to a change in teacher behavior that was maintained at the conclusion of the original study. The instrument was constructed by reviewing the written records of the research assistants, by interviewing the one former teacher who had become an Institute researcher, and by reviewing the written research report of the original study.

Procedure

In February 1980 a letter (see Appendix B) was mailed to all cooperating teachers involved in the original investigation. The purpose of the letter was three-fold: first, to re-communicate the Institute's appreciation of the time and cooperation previously given by the teachers; second, to enlist the continued aid of the teachers by requesting their voluntary participation in a 30-minute private interview with a staff researcher; and third, to encourage further teacher commitment by underscoring the Institute's genuine interest in receiving input regarding the

impact of innovations derived from their research efforts. The major purpose of the interview was to determine the teachers' perceptions of the strengths and weaknesses of the study and to further ascertain whether the Institute research had any effects on individual teaching styles. The interviews were personally administered by two of the authors at convenient times in the teachers' own schools. Generally, the interview process took 20 to 30 minutes. All 18 subjects volunteered to respond to 16 interview questions.

The interviewers were not staff members of the Institute; they had no prior involvement with the original research study. By stating this fact at the outset of the interviews, more open and genuine responses by the teachers were facilitated. This helped to insure a relatively unbiased investigation. Further, the interviewers were unaware of the treatment conditions to which teachers had been assigned. Several steps were taken to insure that the interview was administered in a similar manner to all teachers: (a) both interviewers participated in developing the interview form so that they shared a common understanding of the questions to be asked; (b) both interviewers planned for the interviews together in an effort to anticipate possible problems; and (c) after the first set of interviews, a meeting was held to discuss any questions that arose or problems that occurred during the interview. None of the subjects requested the available option of anonymity.

Results

There were two types of questions in the interview. The first type required simple replies such as "yes" or "no" (e.g., questions 1-6, 8). These questions were analyzed by frequency counts. The second type

required more extensive verbal replies (e.g., questions 7, 9-16). These data were more subjective and had to be coded into systematic categories. The analysis then consisted of frequency counts of these categorized data. In many instances when frequency counts were so low that they reflected only one response, the data are not reported other than in the tables. Also, the analysis revealed that teachers gave essentially identical responses to questions 12 and 13. Consequently, these questions were combined and treated as one item.

Research Participation

Three of the questions in the structured interview dealt with the teachers' participation in research (questions 1-3). In response to question 1, nine respondents indicated that they had no prior experience, eight indicated that they did have experience and one could not remember. Fourteen teachers had previous experience with data-based instruction and four had none. Twelve of these 14 teachers gained their experience via the Sims Program, a program for learning disabled students in the Minneapolis Public School System. When the teachers were asked whether they would agree to participate in another research study, nine answered yes, seven were undecided and two said no. However, when asked whether they would agree to participate in an IRLD sponsored study, 14 said yes, two were undecided, and two said no.

Support from the Institute

Two questions in the structured interview attempted to determine the extent of support given by the Institute. Question 4 asked about the training session that had been attended by 16 of the 18 teachers (two of the teachers were represented by an aide at this meeting).

Twelve indicated that the training session helped prepare them for the study, three indicated that it did not help, and one teacher was unsure.

The teachers were asked whether they remembered different aspects of the training session and whether the explanation clarified the techniques. In most cases they did remember the topic and the explanation was almost always perceived as satisfactory. These data are reported in Table 1.

Insert Table 1 about here

All of the teachers responded to the question that asked about the research assistant's role in the study. Most respondents felt the role was to clarify and provide answers to questions as well as help with problems. A few teachers expected the research assistant to test children. These data are reported in Table 2. The teachers' satisfaction with the research assistants was demonstrated when 17 of the 18 teachers indicated that the research assistants followed through with their role.

Insert Table 2 about here

Implementation

Question 7 attempted to assess which new techniques were implemented by the teachers as a result of the research and whether implementation continued at the conclusion of the study. Question 8 asked whether the new techniques were used in other curriculum areas.

Seven of the 18 teachers indicated that they spent more time on spelling during the study than previously. Three of these seven teachers

felt this was effective; two of them continued to spend more time on spelling at the conclusion of the study.

Twelve of the 18 teachers used graphing procedures during the study that they had not used previously. Eight of these 12 teachers felt that graphing was an effective technique and three continued to use graphing after the study was completed.

Six of the 18 teachers used a new technique for scoring spelling during the study. This consisted of scoring the number of correct letters in sequence found in each word rather than giving credit only for a word in which every letter is correct. Four of the six teachers felt this scoring technique was effective; three continued to score spelling in this manner after the study ended. These data are reported in detail in Table 3.

Insert Table 3 about here

In response to question 8, five teachers indicated that they had tried techniques from the study in curriculum areas other than spelling, such as reading, math, and vocabulary; 13 teachers had not.

Strengths

Teachers reported on the strengths of the study in questions 10, 14, and 15. In response to question 14, 14 of the 18 teachers indicated that they enjoyed being involved in the research. In response to question 15, many new techniques were mentioned. For example, three teachers learned charting skills and three teachers learned to change their teaching strategy based upon the data. Further, three teachers reported learning more about research. These responses are presented in more detail in

Table 4.

 Insert Table 4 about here

In response to question 10, five assets were noted frequently. Eight of the 18 teachers cited the new scoring technique as a strength especially for motivating students; six of the 18 teachers cited feedback gleaned from daily charting. Four of the 18 teachers felt that they were challenged to think of new teaching strategies and that the children learned to spell as a result of the study. Of further interest was the report by four teachers that motivation of both children and teachers was increased by virtue of this being a University of Minnesota study. These data are reported fully in Table 5. Three teachers felt the study had no strengths.

 Insert Table 5 about here

Weaknesses

Questions 9 and 11 investigated study aspects that were viewed as detrimental to implementation, or were considered weaknesses. Time and word choice were the foremost culprits. Twelve of the 18 teachers viewed the implementation of the techniques as laborious; 11 of the 18 felt that the study was time consuming. Moreover, in question 15, four teachers stated that something they learned from the study was that it was a burden to implement.

Five teachers reported that the word choice (irrelevance, difficulty, amount, etc.) caused an implementation problem and six teachers felt that

the word lists were an overall weakness of the study. Timing of the children during the spelling tests was reported by five teachers as difficult.

While most teachers felt adequate support was provided by the Institute staff, four teachers felt a need for intervention plans that were not offered. Four teachers reported no implementation problems. These data are detailed in Tables 6 and 7.

Insert Tables 6 and 7 about here

Recommendations

During the structured interview, teachers were asked to provide helpful feedback to the researchers for use in future investigations. In response to questions 12 and 13, teachers suggested ways the Institute could promote greater change in teacher behavior. In response to question 16, recommendations were made about ways to increase the relevance of the Institute's research to teachers.

The results for question 16 are reported in detail in Table 8. Eleven teachers were disappointed at not receiving a written report of the study results and felt having this information would have made the research more relevant. Five teachers wanted other kinds of feedback such as a better orientation to the study beforehand, better explanations of the techniques, more information about the Institute, and a follow up. In addition, nine teachers suggested that including their input in the study design would add meaning. For instance, researchers should deal with the teachers' reality and take into account the number of children involved. Five teachers reported relevance could be increased by demon-

stration via research assistant modeling, video tapes of the procedures to prove effectiveness, etc.

 Insert Table 8 about here

The results for question 12 and 13 are presented in Table 9. Decreasing the workload and making implementation less time consuming were the most consistently reported recommendations. For example, five respondents suggested that research procedures become less time consuming, three suggested that aides do the charting rather than teachers, two suggested that children do the charting, and one recommended less testing. Teachers had a variety of recommendations regarding the spelling words. For instance, four teachers thought that the words should be more relevant, two felt that they should be given a master list, and one recommended that the words be used to develop lessons.

 Insert Table 9 about here

Discussion

Field-based research must assume the responsibility of facilitating the adoption of techniques that are demonstrated to be effective. Further, the time has come when some resources must be devoted to an evaluation of the research process as well as its outcomes. Michael Scriven (1980) has referred to this as "self-referent research" and this was the focus of the present investigation. Three specific questions were addressed. Before considering the implications of the findings, however, some cautions must be noted.

Cautions

There were a number of problems that suggest the need for cautious interpretations of the data, as well as alternative strategies to employ in future research of this sort. First, the time lapse between the original study and the follow-up could be a significant factor affecting the results (e.g., teacher memory might cause some incidents to fade while others become embellished). Second, although steps were taken to promote consistency between the two interviewers, perhaps they were not enough. For instance, interviewers might participate in formal training sessions that include role-played interviews. Third, it was difficult to analyze the data derived from extended verbal responses. The technique used was for two raters to categorize the data so that they were able to agree on the organization of the information. However, no formal reliability checks were made and it is possible that pre-existing biases of the raters might have influenced the scoring. In the future, systematic reliability checks should be made.

Reasons for Noncontinued Use of the Techniques

It is interesting to note that the teachers' failure to continue implementing the research procedures occurred despite a generally positive view of the research. This positive view was demonstrated by 14 teachers who indicated that they enjoyed participating in the research and by 14 teachers who stated that they would be willing to participate in future research by the Institute.

The data presented in Table 3 shed some light on the intriguing and perplexing issue of implementation. Teachers were asked what techniques they implemented during the course of the original research.

For most of the techniques, there were large numbers of teachers who did not report having used them. For instance, only seven of the 18 teachers reported spending more time on spelling and only six of the 18 cited the sequential scoring system that was used in this study. Had they simply forgotten these techniques? If so, one might hypothesize that the given techniques did not make an impression upon them and in this context it is understandable that they were not viewed as important enough to motivate continued application. Further, when subjects did remember a technique, not all thought the technique was effective; those teachers who did continue implementation were those who felt the technique was effective.

It may be erroneous to evaluate the study's worth based upon the input from the total number of teachers in the study. This would lead to the conclusion that only a very small proportion of teachers are continuing implementation. For example, referring to Table 3 one might conclude that only three of the 18 teachers continued to use graphing. However, if by calculating the proportion of teachers who continued to implement based upon the number of teachers who perceived the technique to be effective, then the ratio improves. Three of the eight teachers who thought these graphing procedures were effective continued to use them after the study. It may be that although a given treatment is demonstrated to be effective by the researchers, it cannot be assumed that this, in and of itself, will assure maintainance. Not enough is done presently to help teachers see the long-range personal benefits. The data suggest that a high proportion of teachers who do feel a particular technique is worthwhile will continue to implement the technique.

Therefore, perhaps field-based researchers need to do more to "sell" their product when data are available to demonstrate effectiveness.

Strengths and Weaknesses

This study revealed the teachers' perceptions regarding the strengths and weaknesses of the research and some of the most frequently mentioned issues should probably be considered in future Institute research. For example, many teachers reported gains for themselves by learning new techniques as a bonus of participating in the study. Some of these techniques were: reward for partial letter sequence, daily charting providing worthwhile feedback, and the challenge to create new instructional techniques. In addition, the teachers reported gains for their youngsters. Some stated that their students improved in spelling and had improved self-concepts.

The weaknesses reported provided input regarding the process of administering the treatments as well as the perceived needs of the teachers. It was learned, for example, that the variable of time may have played a significant role in undermining the success of the spelling program. Teachers reported that there was too much paper work, graphing was inconvenient, there was pressure on the aides and teachers to accomplish what the Institute had prescribed, and it was felt that too much time had to be devoted to spelling, a subject area viewed as one of low priority by some of the teachers.

It was also revealed that there were problems with the words used in the program. Often teachers complained that the random words lacked relevance since they did not correspond to the basal readers being used concurrently by their students. Also, sometimes, the word rules were

different, the switch from phonetics was confusing, there were too many words, or too difficult a selection.

Another specific detail learned was that the timing of the spelling tests was viewed as too exacting and cumbersome a procedure by some (although this was seen as a strength by others). These perceived weaknesses have implications for different approaches that the Institute may wish to consider in future field-based research.

Conclusions about Self-Referent Research

It was noted earlier that future research should be conducted soon after the conclusion of the initial study, and that careful attention should be given to the training procedures and the reliability of the interviewers and the raters. These factors currently are being pursued by the Institute in an evaluation of an investigation conducted during the 1979-80 academic year. First, a systematic coding device has been developed for use by research assistants in writing logs that record the process of the research. The coding form is in Appendix C. Second, a revised teacher follow-up questionnaire (see Appendix D) was administered by the research assistants soon after the study's conclusion. By instituting this sort of evaluation as a formal and consistent component of field-based research, the probability is increased that teachers will implement the techniques.

Recommendations for Future Research

Generally, the recommendations derived from the teachers suggest that future research strive toward decreasing what Lovitt (1975) has referred to as "logistical difficulties." The teachers were consistent in saying that the workload imposed by the researchers was excessive, and

the measurement procedures were too time consuming. Since the formative evaluation procedures employed by the teachers during the study are those that Institute researchers expect teachers to incorporate into their daily routine, efforts must be directed toward increasing the efficiency of those procedures. Toward that end, the program of research on formative evaluation at the Institute, will include a series of investigations on how to improve the efficiency of formative evaluation.

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Footnote

At the time the research was conducted, Joel Meyers was Director of the National Inservice Training Network in School Psychology, University of Minnesota. He is Professor of School Psychology at Temple University, Philadelphia.

Table 1

Responses Regarding the Help Derived from
Training Session (Question 4b)^a

Technique Discussed	<u>Remembered Discussion</u>			<u>Discussion Clarified Procedure</u>		
	Yes	No	?	Yes	No	?
Measurement	12	1	1	10	1	2
Charting	12	1	1	10	1	2
Random Samples	13	3	0	10	1	2
Aim Lines	8	5	1	7	1	2
Data Decision Rules	6	6	1	7	1	2

^aNumbers reflect a frequency count of the teachers who gave each response.

Table 2

Responses Regarding Expectations for Research
Assistant's Role (Question 5)

Role Expected	Number ^a
Clarify teacher's research responsibilities	10
Help teacher with procedural problems	8
Test children	6
Explain results of the research	2
Role unclear	2
Give suggestions	1

^aNumbers reflect a frequency count of the teachers who gave each response.

Table 3

Responses Regarding Teacher Implementation of Procedures
Derived from Research (Question 7)

Technique	Number of Implementers	Proportion Considering Technique Effective ^a	Proportion Continuing to use Technique ^b
Graphing	12	.67	.38
More Time on Spelling	7	.43	.67
Sequential Scoring of Spelling	6	.67	.75
Use of Different Instructional Techniques	4	.75	1.00
Timing of Children during Spelling Tests	2	1.00	.00
Change Aim Line	2	.50	.00
Using Individual Spelling Lists for Each Child	2	1.00	.50
Use Non-Phonetic Approach	1	.00	.00

^a Entries reflect the proportion of teachers implementing the technique who found it effective.

^b Entries reflect the proportion of teachers considering the technique effective who continued to use it after the study.

Table 4
Responses Regarding What Teachers Learned from
the Study (Question 15)

What Was Learned	Number ^a
Techniques:	
Charting skills	3
Changing instructional strategies	3
Novel ways to teach spelling	2
Data-based instruction	1
Partial sequence scoring	1
Standardized techniques	1
Self correcting is motivating	1
Can train aide to chart	1
Daily timing of spelling tests	1
Research:	
Better idea of what research is	2
Learned what type of research is being done	1
Learned it is a burden to implement research	4

^aNumbers reflect a frequency count of the teachers who gave each response.

Table 5
Responses Regarding Strengths of the Study (Question 10)

Strength	Number ^a
Techniques:	
Reward for partial letter sequences	8
Daily charting providing feedback	6
Charting does help	4
Challenging to think up new instructional techniques	4
A new technique for teaching spelling (including the use of random word lists)	4
Change of aim line was motivating to child	1
Timing spelling	1
Effects:	
Learned spelling words	4
Motivation as part of a University study	4
Improved self-concept	3
Learned to write faster	1
No Strengths:	1

^a Numbers reflect a frequency count of the teachers who gave each response.

Table 6

Responses Regarding Aspects of the Study Found
Difficult to Implement (Question 9)

Difficult Aspects	Number ^a
Laborious: paper, work, daily graphing, pressure on aides	12
Timing Procedures: too exacting and cumbersome, three minute test too long	5
Word Lists: too hard, not relevant, switched from phonetic approach	5
Goals: unrealistic	2
Children at different levels	1
Implementing variety of different techniques	1
No problems	4

^aNumbers reflect a frequency count of the teachers who gave each response.

Table 7

Responses Regarding Weaknesses of Study (Question 11)

Weakness	Number ^a
Amount of Time: time consuming, disruptive, a strain, too much emphasis on spelling	11
Words: irrelevant (not in basal readers), different spelling rules, too many	6
Support from Institute: daily support needed, new intervention ideas were needed, need for a complete spelling program	4
Techniques:	
Reward for partial sequence sacrificed accuracy	3
Too many changes when technique was working	2
Pretest gave inaccurate picture of child	1
Not sharing graphs with children	1
Not systematic enough	1
Did not like testing procedures	1

^aNumbers reflect a frequency count of the teachers who gave each response.

Table 8

Responses Regarding Techniques to Increase the Probability of
Teachers Implementation (Questions 12 and 13)

Technique	Number ^a
Lighten Workload:	
Make procedures less time consuming	5
Have aides do the charts	3
Have children do charts	2
Less testing	1
Have all children in the study at the same time	1
Improve Communication Between Teachers and Institute:	
Feedback so teachers know more about the study	4
Have teachers help develop the study	3
Better explanation of techniques and offers of help	2
Spelling Words:	
Have more relevant words	4
Have master list available	2
Use same list longer	1
Choose higher priority subject area	1
Do not score spelling by number of correct letters in sequence	1
Use words to develop a lesson	1

^aNumbers reflect a frequency count of the teachers who gave each response.

Table 9

Responses Regarding Ways to Make Research More Relevant to
Classroom Teachers (Question 16)

Recommendations	Number ^a
Formal Feedback to Teachers:	
Provide written report of results	11
Other feedback (including follow-up with teachers, information about Institute, feedback to administrators, overview of study beforehand, and a list of effective outcomes from the study)	5
Make Relevant Through Teacher Input:	
(Deal with the teacher's reality, take into account the number of children teachers have, let teachers plan and evaluate techniques, give teachers flexibility, give teachers responsibility, coordinate resource room program with regular classroom)	9
Demonstrate Specific Proven Techniques to Teachers in the Classroom:	
Videotape, research assistant modeling, etc.	5
Others:	
Find tests that discriminate between children	1
Find techniques that help children memorize facts	1
Help children develop skills in written language	1
Provide word list	1

^a Numbers reflect a frequency count of the teachers who gave each response.

APPENDIX A

IRLD Follow-Up Interview

1. Had you ever participated in a research study prior to the one last spring?
2. Would you agree to participate in another research study? _____
IRLD Study? _____
3. Had you had experience with data-based instruction prior to this study?
4. Did you attend the training session? _____
 - 4a. Did it help prepare you the the study? _____
 - 4b. Do you remember whether the Research Assistant explained about? _____ Did explanation make it clearer for you?

measurement _____	_____
charting _____	_____
random samples _____	_____
aim lines _____	_____
data decision rules _____	_____
5. What was your expectation of the Research Assistant's role in the study?
 - 5a. Did the R.A. follow through? _____
 6. Was spelling part of your curriculum prior to the study? _____
 - 7a. During the study what was implemented in your classroom as a result of the research?
 - 7b. To what extent was it effective?
 - 7c. Which of these did you continue to implement after the study? Why? Why not?

8. Did you try this technique in any other curriculum areas? which? when? currently?
9. Were there any aspects of the study which you had difficulty implementing? If so why?
10. What do you feel were the strengths of the study?
11. What do you feel were the weaknesses of the study?
12. What could have been done to make you more likely to implement consistently those procedures which were difficult to implement?
13. What would have made it more likely that you would have continued implementing changes following the study?
14. How did you feel being involved in the research?
15. What did you learn from participating in the research?
16. How can we make our research more relevant to the classroom teacher?

APPENDIX B

Dear

Last year you participated in a research study that investigated the impact of different measurement systems on the teaching of spelling to learning disabled children. As we have communicated previously, your involvement in the project contributed to the success of this endeavor.

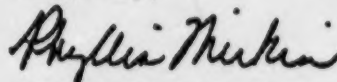
This year, the IRLD is continuing its research efforts designed to maximize the educational experience of LD children. Although we learn a great deal from these ongoing investigations, we are also interested in examining the impact these innovations have upon cooperating teachers such as yourself. We want to find ways that not only increase the likelihood of immediate benefits to you but also assure your implementation of the successful treatments.

As a first step toward these goals, we are conducting a follow-up interview with those teachers who participated in the original research. We would like to arrange a one half hour interview between you and a member of our research team. The purpose of the interview will be to determine your perceptions of the strengths and weaknesses of the study; and further to ascertain whether there were any effects on your teaching generated by this project.

We would appreciate your voluntary cooperation in this brief follow-up interview. Soon after you receive this letter, Barbara Meyers will call to find out about your willingness and availability to be interviewed.

Thank you in advance for your time and cooperation; your contribution and commitment are invaluable.

Sincerely,



Phyllis Mirkin, Ph.D.
Associate Director

PM:mh

APPENDIX C

	Mechanical Problems	Goal Setting	Instructional Changes	General Cooperation
Lack of understanding				
Lack of cooperation				General Resistance
Cooperation				
Comments				Teacher School Session # Date Treatment

APPENDIX D



UNIVERSITY OF MINNESOTA
TWIN CITIES

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Institute for Research on Learning Disabilities
Department of Psychoeducational Studies
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75 East River Road
Minneapolis, Minnesota 55455

I agree to participate in a follow-up interview regarding the data-utilization study run by the Institute for Research on Learning Disabilities at the University of Minnesota during January and February, 1980. My identity will remain confidential in any summary of the findings. I understand that participation is completely voluntary, that the interview will last about 1/2 hour, and that the purpose of it is to provide researchers with information on how to make research more relevant to teachers.

If there are any questions, I will raise them before beginning the interview.

(Signature)

TEACHER QUESTIONNAIRE: VIII-D

We would like to get your judgments about the study you were involved in to help us better understand the results.

1. Please describe how you measured in the study.

Group 2
composition of pack
shuffling
30 secs.
right + wrong

Group 3
5 packs
shuffling
30 secs.
right + wrong

2. Please describe what procedures you used to summarize your data points and how you indicated changes.

Group 2
short term goal
aim line
straight line for intervention
change
bent line for list change

Group 3
medians
trend lines
intervention lines

3. What information did you use to decide when to make a change and what the nature of your change would be?

Group 2
above/below aim line
meeting goal

Group 3
5-10 days
graphs indicate
median
trend line
variability
steps in performance

4. Please describe the procedure you used to set your original long term goal.

_____ past student performance
_____ classroom pace of instruction
_____ where child ought to be by the end of year

5. (Group 2 only) Please describe the procedure you used to set your short term goals.

_____ how student met previous goal
 _____ fixed time schedule
 _____ difficulty of word set or number of words in set
 _____ preserving student's self-esteem

6. Did you discover anything about your teaching techniques during the study? If so, what?

7. Did you discover anything about your students during the study? If so, what?

8. Please rank order the following frequency of measurement conditions, with "1" representing the most effective in improving reading performance. Indicate a tie by assigning the same rank.

<u>Condition</u>	<u>Rank</u>
daily measurement	_____
weekly measurement	_____
no measurement (control students)	_____

Why do you think "1" was most effective?

9. What do you think the goal of the study was with respect to student achievement?
10. To what extent do you think the student's performance graph reflects his/her general progress in reading?

Not much		some		very much
1	2	3	4	5

11. To what extent do the graphs show the effects of program changes?

Not much		some		very much
1	2	3	4	5

12. Each day, approximately how much time did it take to implement the study procedures?

13. Can you suggest changes which would make the procedures easier to use?

- 14a. Do you plan to continue to use any of the study procedures in the future? If so, which ones?

- b. Do you see other academic areas where these study procedures would be applicable? If so, which?

- c. Based on your experience in the study how interested would you be to participate in other research studies sponsored by the Institute.

☐ Very interested
☐ Somewhat interested
☐ Not interested

15. We are planning to have a get together for all teacher participants in the study. When would be a good time for you?

☐ Before the end of the school year
☐ Early summer
☐ a.m.
☐ p.m.

PUBLICATIONS

Institute for Research on Learning Disabilities
University of Minnesota

The Institute is not funded for the distribution of its publications. Publications may be obtained for \$3.00 per document, a fee designed to cover printing and postage costs. Only checks and money orders payable to the University of Minnesota can be accepted. All orders must be prepaid.

Requests should be directed to: Editor, IRLD, 350 Elliott Hall;
75 East River Road, University of Minnesota, Minneapolis, MN 55455.

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